



Alcohol, wine, and vascular diseases: an abundance of paradoxes

By: Arthur Klatsky

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- In 1819, an Irish physician made what is considered the first relevant medical commentary regarding the relationship between alcohol and health. Noting the frequency of coronary disease among Irish patients, but its apparent rare presence in French patients, he attributed it to *“the French habits and modes of living, coinciding with the benignity of their climate and the peculiar character of their moral affections”*.
- Some 160 years later, comparison of international data showed less heart disease mortality in wine-drinking countries than in countries where beer or liquor drinking predominated. More recently, a TV broadcast (*“60 Minutes”*) attributed the lower heart attack rate in France partially to red wine, despite the high risk traits for coronary disease present in that population – something that is known as the *“French paradox”*. Today, many epidemiologists feel there is little doubt that *alcohol* – not necessarily *red wine* – exerts a protective effect against coronary disease.
- But what could the underlying biological mechanism be? One of the many compelling evidences that alcohol protects against coronary disease is the presence of higher levels of high-density lipoprotein cholesterol (HDL, the “good” type one) in alcohol drinkers. But, as the author points out, this is an effect of alcohol, not specifically of wine. Therefore, we need to continue looking for a mechanism that could explain the potential health benefits of drinking red wine.
- In a 2007 well-conceived, -executed, and -controlled experiment on the effects of ethanol and red wine on various cardiovascular parameters, results showed few differences between red wine and alcohol. This data suggested that red wine phenolics had little effect on the parameters that were measured (blood pressure, heart rate, cardiac output, nerve activity, artery flow).
- In interpreting the above results, the current author sends a word of caution. The *atherosclerosis* (occlusion of arteries) that leads to acute coronary disease takes decades to develop, and mechanisms that increase the *risk* of developing coronary disease are likely not be the same as those that increase acute coronary *events* themselves. That is, the changes in the parameters measured in the above experiment are not necessarily related to the effects of alcohol on acute vascular events.
- Acute vascular effects of alcohol might be better related, one would think, to high blood pressure (systemic hypertension). However, here too, much scientific work has failed to establish a connection between hypertension and heavy drinkers. For example, in the above experiment, the subjects who had ingested alcohol or red wine did not show an immediate increase in blood pressure (even though it cannot be discarded that it may have happened the following morning, or that the alcohol dose used may have been too low).
- In brief, the author’s point is that “understanding the role of alcohol on vascular disorders has suffered from oversimplification and intellectual diversions”. In his opinion, medical data still show multiple disparities between the association of alcohol consumption and the various cardiovascular conditions. As a result, the final disparity is the appropriate advice that a health practitioner should give with respect to the risks and benefits of alcoholic beverage intake. Simply put, “one size doesn’t fit all”.

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